**Reviewer's report**

**Title:** Miliary tuberculosis with co-existing pulmonary cryptococcosis in non-HIV patient without underlying diseases: a case report

**Version:** 0  **Date:** 07 Oct 2017

**Reviewer:** Ferry Hagen

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The authors described a case of miliary tuberculosis and pulmonary cryptococcosis in an apparently immunocompetent subject, and additionally provide a review about other comparable cases.

The main question here is "what is immunocompetent"? The patient is an apparently healthy 84-year old subject who seems to have developed 'spontaneously' tuberculosis followed by cryptococcosis.

Some immunological markers were tested, among them are IL2, CD4 and CD8, but can be stated from that the patient was immunocompetent? At least, in my opinion, we need to speak about an apparently immunocompetent subject.

A wide range of tests were performed, although the case report itself is informative, the background information about the specific tests is missing:

- what are the normal ranges for the given clinical chemistry markers? (and the observed values?)

- what are the normal ranges for the CD4 and CD8 lymphocyte counts? (and the observed values?)

- Antigen testing was performed for Streptococcus pneumoniae and Legionella pneumophila, but which tests were used for that?

- "polymerase chain reaction was positive for Mycobacterium tuberculosis", which assay was used (commercial, in-house?)?
- "Microbiological testing" was performed, what kind of tests?

- The cryptococcal antigen testing was positive, which (commercial) test was used? It is important to know, as the diagnosis of cryptococcal infection was made based on the outcome of this test (maybe a less well-performing test was used that has cross-reactivity with other fungi/yeasts).

- In the Discussion section "cryptococcosis is caused by Cryptococcus neoformans", indeed this is the major cause of cryptococcosis, but there are at least 7 species within the C. neoformans/C. gattii species complexes... and they all cause cryptococcosis.

- "we found no evidence of immunodeficiency in our patient", can that be reliable concluded based on three immunological markers?

- The sentence thereafter "Therefore, our case appears to be the first English article .... immunocompetent patient" is a statement that cannot be made. Better to put it like "In conclusion, the described patient was diagnosed with miliary tuberculosis with a co-existing pulmonary cryptococcal infection".

- How sure are you that the culprit of disease was Cryptococcus neoformans? Was there any molecular identification performed (not mentioned)? It might be very well that one of the members within the Cryptococcus gattii species complex was the cause of cryptococcal infection.

- "The results of all immunological markers" > provide the immunological markers instead of "all"

- Replace "we decribed the first" by "we described a"

- Provide a list with the used abbreviations in Table 1 and what they mean.

- In the abstract correct "patinet" into "patients"
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
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Unable to assess

Are the conclusions drawn adequately supported by the data shown?
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